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			2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,628

Applicant(s)

OZ ET AL.

Examiner

Nittaya Juntima

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-73 is/are pending in the application.
- 4a) Of the above claim(s) 7, 8, 10, 20-25, 27, 28, 30-34, 36, 37 and 66 is/are ~~withdrawn from consideration~~ ^{cancelled}.
- 5) ☒ Claim(s) 18 is/are allowed.
- 6) ☒ Claim(s) 1-6, 9, 11-17, 19, 26, 29, 35, 38-65 and 67-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the RCE filed on 1/30/2006.
2. Claims 7-8, 10, 20-25, 27-28, 30-34, 36-37, and 66 were cancelled.
3. Claim 18 is allowed.
4. The indicated allowability of claims 1-6, 9, 11-17, 19, 26, 29, 35, 38-65, and 67-73 is withdrawn in view of different interpretation of the previously applied reference and/or the newly discovered reference(s). Rejections based on the newly cited reference(s) follow.

Claim Objections

5. Claims 18, 35, 60-61, 64, 67-68, and 71-72 are objected to because of the following informalities:
 - in claim 18, line 11, "streams" should be changed to "stream;"
 - in claim 35, line 8, "rate of the sequence of media signals" should be inserted after "the bit" to put the claim in a better form;
 - in claim 60, line 9, "a" should be changed to "the" to refer to the bit converter recited on line 4;
 - in claim 61, line 1, "sequence" should be removed, and
lines 2-3, "the at least two media signals sequences" should be changed to "the at least two sequences of the media signals" for consistency purposes;
 - in claim 64, line 3, "data media" should be changed to "media signals" for consistency purposes;

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- in claims 67 and 68, line 1, “660” should be changed to “60;”
- in claim 71, line 7, “a” should be changed to “the” to refer to the bit converter

recited on line 4;

- in claim 72, line 7, “a” should be changed to “the” to refer to the bit converter recited on line 4;

line 9, a comma should be removed.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 6, 11, 16-17, 19, 26, 46-48, 57, and 59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, the limitation “bit rate conversion *techniques*” in line 6 of the claim is vague and indefinite. It cannot be determined from the claim language as whether these techniques are the same as “bit rate conversion *schemes*” recited in lines 3-4 of the claim due to the use of inconsistent terminology. Therefore, the claim is vague and indefinite. The office is interpreting the limitation in line 6 as “bit rate conversion schemes” (the same as that recited in lines 3-4).

Similarly, in claim 11, the limitation “bit rate conversion *techniques*” in line 2 of the claim is vague and indefinite. It cannot be determined from the claim language as whether these techniques are the same as “bit rate conversion *scheme*” recited in lines 6 and 8 of the claim due

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to the use of inconsistent terminology. Therefore, the claim is vague and indefinite. The office is interpreting the limitation in line 6 as “bit rate conversion schemes” (the same as that recited in lines 3-4).

Claim 26, the limitation “sequence of media signals” in line 10 and 11 of the claim is vague and indefinite. It cannot be determined from the claim language whether it refers to the sequence in line 4 of the claim or to the sequence in line 9 of the claim. Therefore, the claim is vague and indefinite. The office is interpreting the limitation in lines 10 and 11 as “sequence of media signals of the at least two sequences.”

Claims 46 and claim 57, line 1, the limitation “the sequences of bit rate conversion information” lacks antecedent basis. The office is interpreting the limitation as “bit rate conversion information.”

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-5, 9, 11-15, 17, 19, 38-42, 44-45, 49-53, 55-56, and 58 are rejected under 35 U.S.C. 102(a) as being anticipated by the admitted prior art (Fig. 1).

Regarding claim 1, as shown in Fig. 1, the admitted prior art teaches a method for generating and transmitting bit rate conversion information, the method comprising:

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Receiving a sequence of media signals (a selected digitized program must contain a sequence of media signals), the sequence of media signals is to be transmitted over a communication channel (Headends 20-k, e.g. Headend 20-3 and Headend 20-m, receive selected digitized program contained in a primary combined signal transmitted from distributed satellite 14 and to be transmitted over a respective cable network 30, paragraphs 0008, 0010, 0011).

Applying at least two bit rate conversion schemes on the sequence of media signals (analyzers 20-3-2 and 20-m-2 apply bit rate conversion techniques on the selected digitized program, paragraph 0013).

Analyzing the results of the appliance of the at least two bit rate conversion schemes to provide bit rate conversion information (the results of the analysis including information that reflect the amount of either actual or predicted bit rate conversion that can be achieved by applying bit rate conversion techniques) to be sent to multiple controllers (controllers 20-3-4 and 20-m-4) that determine whether to apply bit rate conversion schemes in response to bit rate conversion information (analyzers 20-3-2 and 20-m-2 analyze the results of the appliance of the bit rate conversion techniques and the results of the analysis are sent to controllers 20-3-4 and 20-m-4 that determine whether to apply bit rate conversion techniques in view of the analysis results, paragraph 0013).

Regarding claim 2, as shown in Fig. 1, the admitted prior art teaches a method for generating and transmitting bit rate conversion information, the method comprising:

Receiving a sequence of media signals (a selected digitized program containing a sequence of media signals), the sequence of media signals is to be transmitted over a communication channel (not defined, reads on an inherent channel connecting between analyzer

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20-3-2 and controller 20-3-4 for transmitting the selected digitized program from an analyzer to a controller) (analyzer 20-3-2 receives a selected digitized program from distributed satellite 14 and must transmit the selected digitized program over an inherent channel connecting between analyzer 20-3-2 and controller 20-3-4 for bit rate conversion appliance determination, paragraphs 0008 and 0013).

Applying at least two bit rate conversion schemes on the sequence of media signals (analyzer 20-3-2 applies bit rate conversion techniques on the selected digitized program, paragraph 0013).

Analyzing the results of the appliance of the at least two bit rate conversion schemes to provide bit rate conversion information (analyzer 20-3-2 analyzes the results of the appliance of the bit rate conversion techniques in order to provide the results of the analysis including information that reflect the amount of either actual or predicted bit rate conversion that can be achieved by applying bit rate conversion techniques to controller 20-3-4, paragraph 0013).

Transmitting at least a portion of the bit rate conversion information over the communication channel (the results of the analysis must be sent to controller 20-3-4 through the inherent channel connecting analyzer 20-3-2 to controller 20-3-4, paragraph 0013).

Regarding claim 3, it is inherent that portion of the bit rate conversion information (the results of the analysis) must be multiplexed (sent along with) with the sequence of media signals (a selected digitized program) in order for both the bit rate conversion information and the sequence of media signals to be processed by controller 20-3-4, paragraph 0013.

Regarding claims 4, 41, and 52, it is inherent that the bit rate information must indicate (a) the at least two bit rate conversion schemes applied on the sequence of media signals (bit rate

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conversion techniques must be indicated in the results of the analysis so that controller 20-3-4 can determine whether to apply the techniques and which technique to apply), and (b) at least two amounts of bit rate conversion resulting from the appliance of the at least two bit rate conversion schemes (the at least two amounts read on information that reflects the amount of either actual or predicted bit rate conversion that can be achieved by applying bit rate conversion techniques). See paragraph 0013.

Regarding claims 5, 42, and 53, it is further inherent that the bit rate conversion information must indicate at least one quality loss (not defined, reads on the amount of either actual or predicted bit rate conversion that can be achieved by applying bit rate conversion techniques which is indicative of the bit rate reduction resulting from applying bit rate conversion techniques, paragraph 0013).

Regarding claims 9, 45, and 56, the admitted prior art further teaches that the media signals are selected from a group as indicated in the claim (paragraphs 0002-0003 and Fig. 1).

Claim 11 is a method claim containing similar limitations as recited in method claim 1 where the plurality of receivers read on controllers 20-3-4 and 20-m-4 with an addition of a distribution center (central distribution centre 12 in Fig. 1), therefore, is rejected for the same reason set forth in the rejection of claim 1.

Claim 12 is a method claim containing similar limitations as recited in method claim 2 with an addition of a distribution center (central distribution centre 12 in Fig. 1), therefore, is rejected for the same reason set forth in the rejection of claim 2.

Claims 13-15 are method claims containing similar limitations as recited in method claims 3-5, therefore, are rejected for the same reason set forth in the rejection of claims 3-5.

Regarding claim 17, since multiple bit rate conversion schemes are applied to each media stream and the results of the analysis are provided to the controllers 20-3-4 and 20-m-4 so that determination on whether to apply bit rate conversion techniques can be made (paragraph 0013, lines 3-12), it is inherent that the steps of applying and analyzing must be repeated to produce bit rate conversion information indicative of results of an appliance of a sequence of bit rate conversion schemes on the at least one media stream as the analyzers 20-3-4 and 20-m-4 apply and analyze one scheme at a time.

Regarding claim 19, the admitted prior art further teaches that each media stream includes signals selected from a group as indicated in the claim (paragraphs 0002-0003 and Fig. 1).

Regarding claims 38 and 49, as shown in Fig. 1, the admitted prior art teaches an apparatus (headend 20-3), comprising:

At least one bit rate converter (an inherent that bit rate converter residing an analyzer 20-3-2) for receiving a sequence of media signals (a selected digitized program containing a sequence of media signals) to be transmitted over a communication channel (not defined, based on the headend structure shown in Fig. 1, a communication channel reads on an inherent channel connecting between analyzer 20-3-2 and controller 20-3-4 which must be included for transmitting the selected digitized program from an analyzer to a controller), and for applying at least one bit rate conversion scheme on the sequence of media signals to provide a bit rate converted sequence of media signals, paragraphs 0008 and 0013).

At least one bit rate conversion analyzer (an inherent bit rate conversion analyzer residing an analyzer 20-3-2) coupled to the bit rate converter, for receiving and analyzing the bit rate

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converted sequence of media signals and providing bit rate conversion information (paragraph 0013).

Regarding claims 39 and 50, the admitted prior art teaches a transmitter (output port of the inherent analyzer) coupled between the at least one bit rate conversion analyzer inherently included in the analyzer 20-3-2 of Fig. 1 and the communication channel (not defined, reads on an inherent channel connecting between analyzer 20-3-2 and controller 20-3-4 for transmitting the selected digitized program from an analyzer to a controller) for receiving and transmitting bit over the communication channel at least a portion of the bit rate conversion information (paragraph 00013).

Regarding claims 40 and 51, based on the structure of headend 20-3 shown in Fig. 1, an inherent multiplexer, coupled between the at least one bit rate conversion analyzer inherently included in the analyzer 20-3-2 and the communication channel (not defined, reads on an inherent channel connecting between analyzer 20-3-2 and controller 20-3-4 for transmitting the selected digitized program from an analyzer to a controller), must be included to receive and multiplex the sequence of media signals and at least a portion of the bit rate conversion information in order for the signals and information to be received from analyzer 20-3-2 and processed by controller 20-3-4 (paragraph 0013).

Regarding claims 44 and 55, the admitted prior art teaches one pair of bit rate converter and bit rate conversion analyzer (both converter and analyzer are included in analyzer 20-3-2 of Fig. 1) apply a sequence of bit rate conversion schemes (bit rate conversion techniques) on a sequence of media signals (selected digitized program) and provide bit rate information (results

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of the analysis) indicative of results of the appliance of the sequence of bit rate conversion schemes on the sequence of media signals (paragraph 0013).

Regarding claim 58, the admitted prior art teaches that the apparatus (headend 20-3 in Fig. 1) is located within a central distribution center (not defined, reads on headend, paragraph 0013).

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 2, 3, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Kari (USPN 6,434,168 B1).

Regarding claim 2, as shown in Fig. 1, Kari teaches a method for generating and transmitting bit rate conversion information, the method comprising:

Receiving a sequence of media signals (data stream comprising frames), the sequence of media signals is to be transmitted over a communication channel (a channel over the air interface Um) (the transmitting party receives data stream to be transmitted over the air interface, col. 1, lines 43-51 and col. 3, lines 4-9, 13-17, and 22-24).

Applying at least two bit rate conversion schemes on the sequence of media signals (compression algorithms are applied to the data stream, col. 1, lines 43-51 and col. 3, lines 18-24).

Analyzing the results of the appliance of the at least two bit rate conversion schemes to provide bit rate conversion information (since the algorithm providing the best compression ratio is selected for each frame of the data stream and information indicating algorithm selected is transmitted, col. 3, lines 22-26, the results of the appliance of algorithms must be analyzed in order for the information indicating selected algorithm for each frame to be provided for transmission).

Transmitting at least a portion of the bit rate conversion information over the communication channel (the selected algorithm is transmitted in each compressed frame to the receiving party over the air interface, col. 3, lines 13-22 and col. 4, lines 52-55).

Regarding claim 3, Kari further teaches that the step of transmitting at least a portion of the bit rate conversion information is preceded by a step of multiplexing the at least portion of the bit rate conversion information (the information indicating selected algorithm for each frame) with the sequence of media signals (data stream comprising frames), col. 4, lines 52-55.

Regarding claim 9, Kari further teaches that the media signals are sequences of media signals (col. 1, lines 38-45).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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13. Claims 6, 16, 43, 54, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over an admitted prior art (Fig. 1) in view of Zhang et al. ("Zhang") (USPN 6,181,711).

Regarding claims 6, 16, and 43, the admitted prior fails to explicitly teach that the bit rate conversion schemes are selected from a group as disclosed in the claim.

However, Zhang et al. teach that the bit rate conversion schemes can be selected from a group of removing filler packets (removing of filler packets), removing filler frames (removing of filler frames), removing stuffing bits (removing stuffing bits) (col. 9, lines 29-59).

Therefore, it would have been obvious to one skilled in the art to include that the bit rate conversion schemes are selected from the group of Zhang into the teaching of the admitted prior as suggested by the admitted prior art (paragraph 4, lines 8-9).

14. Claims 26, 72, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Fig. 1) in view of an art of record, Linzer et al. ("Linzer") (USPN 6,038,256).

As shown in Fig. 1, the admitted prior art teaches a method comprising the steps of:

(A headend 20-3) receiving the sequence of media signals (selected digitized programs), bandwidth information (the available bandwidth of the downstream channel) and bit rate conversion information (the results of the analysis). See paragraph 0013, lines 1-9 of the specification, see also paragraph 0004, lines 1-4.

(Controller 20-3-4) determining whether to convert the bit rate of the sequence of media signals in view of bandwidth information and the bit rate conversion information (paragraph 0013).

(Processor 20-3-6) converting the bit rate of the sequence of media signals in response to the determination (paragraph 0013).

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Wherein the media signals comprising of at least two sequences of media signals (at least two selected digitized programs, paragraph 0004, lines 1-4 and paragraph 0008, lines 4-5), whereas each sequence of media signals (each selected digitized program) of the at least two sequences is associated with a bit rate conversion information (paragraph 0008, lines 1-5 and paragraph 0013, lines 1-13).

Wherein each bit rate converted sequence of media signals of the at least two sequences is representative of at least a portion of a program (a portion of a digitized program). See paragraph 0004, lines 1-4, paragraph 8, lines 4-5, and paragraph 0013, lines 7-12.

Selecting at least one of the at least two sequences (selected digitized programs) to be provided to the channel (the downstream channel) and wherein converting the media signals in view of the selection (paragraphs 0011 and 0013).

Wherein the step of receiving is preceded by a step of multiplexing the at least two sequences of media signals (paragraph 0008, lines 1-5).

However, the admitted prior art fails to teach that the step of multiplexing is preceded by a step of generating bit rate conversion information.

Linzer teaches a method where a statistical multiplexer (80, Fig. 5) utilizes pre-stored a priori statistics to allocate available channel bits between the n video sources (82-1, ..., 82-n, Fig. 5) before transmission them onto a single output channel (95, Fig. 5) wherein bit rate conversion information (not defined, reads on corresponding pre-encoding a priori statistics for the n video signals being encoded) is generated prior to multiplexing the video signals (col. 8, lines 35-45 and 53-59).

Because the admitted prior art further teaches that n video sources are provided at the central distribution center 12 in Fig. 1 that multiplexes the digitized programs to generate the primary combined signal and performs channel specific encoding and modulation for the primary combined signal (paragraph 0008, lines 1-8) and given the teaching of Linzer, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of the admitted prior art to apply the teaching of Linzer at the central distribution center 12 of the admitted prior art such that the step of multiplexing is preceded by a step of generating bit rate conversion information as recited in the claim. The suggestion/motivation to do so would have been to multiplex the compressed/encoded video signals from a plurality of sources and transmitted them over an output channel using the pre-encoding a priori statistics as taught by Linzer (col. 8, lines 45-50 and 53-55).

Regarding claim 72, as shown in Fig. 1, the admitted prior art teaches an apparatus (headend 20-3) comprising:

A controller (20-3-4), coupled to a bit converter (processor 20-3-6) for receiving bit rate conversion information (results of the analysis) and bandwidth information (the available bandwidth of the downstream channel) and for determining whether to convert bit rate of the sequence of media signals (selected digitized programs) in response to the bandwidth information and the bit rate conversion information (paragraph 0013).

The bit rate converter (processor 20-3-6), coupled to the controller (20-3-4), for receiving the sequence of media signals and for converting the bit rate of the sequence of media signals, in response to the determination (paragraph 0013).

However, the admitted prior art fails to teach that the apparatus modifies bit rate conversion information to reflect bit rate conversion schemes that were applied by the bit rate converter.

Linzer, as shown in Fig. 6, teaches that an apparatus (a statistical multiplexer 70) that modifies statistics as a posteriori statistics (equivalent to bit rate conversion information) to reflect the complexity involved in re-encoding the reproduced video signals at respective transcoders (equivalent to bit rate conversion schemes that were applied by a converter) (col. 9, lines 6-28).

Given the teaching of Linzer, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of the admitted prior art to incorporate the teaching of Linzer such that the apparatus would modify bit rate conversion information to reflect bit rate conversion schemes that were applied by the bit rate converter. The suggestion/motivation to do so would have been to enable the apparatus to utilize both the a priori and a posteriori statistics (equivalent to original bit rate information and modified bit rate information, respectively) in transporting combined re-compressed video bit streams (equivalent to the media signals with modified bit rate) as taught by Linzer (col. 9, lines 23-28).

Regarding claim 73, the admitted prior art teaches the bit rate information being indicative of results of an appliance of sequence of bit rate conversion schemes (bit rate conversion techniques) on the sequence of media signals (paragraph 0013).

15. Claims 29, 35, 46-48, 57, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Fig. 1) in view of Kari (USPN 6,434,168 B1).

Regarding claim 29, s shown in Fig. 1, the admitted prior art teaches a method comprising the steps of:

(A headend 20-3) receiving the sequence of media signals (a plurality of media signals contained in a selected digitized program, paragraph 0008, lines 4-5), bandwidth information (the available bandwidth of the downstream channel) and bit rate conversion information (not defined, reads on the applied bit rate conversion techniques). See paragraph 0013.

(Controller 20-3-4) determining whether to convert the bit rate of the sequence of media signals in view of bandwidth information and the bit rate conversion information (paragraph 0013).

(Processor 20-3-6) converting the bit rate of the sequence of media signals in response to the determination (paragraph 0013).

Wherein the bit rate conversion information is generated by a central analyzer (analyzer 20-3-2, paragraph 0013).

However, the admitted prior art fails to explicitly teach that the bit rate conversion information is multiplexed with the media signals.

In an analogous art where the data to be transmitted are compressed with a number of different algorithms, and the best of the compression results is transmitted to the receiving party (col. 2, lines 32-38), Kari teaches that bit rate conversion information (compression algorithms used) is multiplexed with media signals (frames) (col. 1, lines 43-45, 54-57, and col. 4, lines 52-55).

Given the teaching of Kari, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of the admitted prior art to incorporate the

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teaching of Kari such that the bit rate conversion information is multiplexed with the media signals as recited in the claim. The suggestion/motivation would have been to enable the receiving party to know which algorithms to use in order to decompress the data as taught by Kari (col. 3, lines 21-26).

Regarding claim 35, as shown in Fig. 1, the admitted prior art teaches a method comprising the steps of:

(A headend 20-3) receiving the sequence of media signals (a plurality of media signals contained in a selected digitized program, paragraph 0008, lines 4-5), bandwidth information (the available bandwidth of the downstream channel) and bit rate conversion information (not defined, reads on the applied bit rate conversion techniques). See paragraph 0013.

(Controller 20-3-4) determining whether to convert the bit rate of the sequence of media signals in view of bandwidth information and the bit rate conversion information (paragraph 0013).

(Processor 20-3-6) converting the bit rate of the sequence of media (paragraph 0013).

Wherein the media signals are MPEG compliant signals and arranged in MPEG compliant transport packets (at the media signals are MPEG compliant signals and arranged in transport packets according to MPEG specifications, paragraph 0003 and 0004, lines 1-4),

However, the admitted prior art does not teach that the bit rate conversion information is embedded within the headers of the transport packets.

Regarding embedding bit rate conversion information within the packets, in an analogous art where the data to be transmitted are compressed with a number of different algorithms, and the best of the compression results is transmitted to the receiving party (col. 2, lines 32-38), Kari

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teaches that bit rate conversion information (compression algorithms used including MPEG) is embedded within packets (frames) (col. 1, lines 43-45, 54-57, and col. 4, lines 52-55).

Given the teaching of Kari, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of the admitted prior art to incorporate the teaching of Kari such that the bit rate conversion information would be embedded within packets. The suggestion/motivation would have been to enable the receiving party to know which algorithms to use in order to decompress the data as taught by Kari (col. 3, lines 21-26).

The combined teaching of the admitted prior art and Kari teaches that the bit rate conversion information is embedded within the transport packets but does not teach specifically that the information is embedded within the headers of the packets.

An official notice is taken that it is well known in the art to embed any information related to payload processing, such as control information, within the header of a packet to assist a receiving party in processing the packet payload. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the combined teaching of the admitted prior art and Kari such that the bit rate conversion information would be embedded within the header of the transport packets as recited in the claim. The suggestion/motivation to do so would have been to transmit the bit rate conversion information to a receiving party in order to assist in processing, i.e. decompressing, the packet payload, and such modification involves only routine skill in the art.

Regarding claims 46 and 57, the admitted prior art teaches transmitting the sequence of media signals to multiple receivers (set top boxes 28-1, .. 28-t in Fig. 1) (paragraphs 0010 and 0013), and bit rate conversion information (results of the analysis, paragraph 0013).

However, the admitted prior art fails to teach transmitting bit rate conversion information to multiple receivers.

In an analogous art where the data to be transmitted are compressed with a number of different algorithms, and the best of the compression results is transmitted to a receiving party (col. 2, lines 32-38), Kari teaches transmitting bit rate conversion information (compression algorithms used) to a receiver (col. 1, lines 43-45, 54-57, and col. 4, lines 52-55) in which the method is applicable to several types of telecommunication (col.2, lines 49-50).

Given the teaching of Kari, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of the admitted prior art to incorporate the teaching of Kari such that bit rate conversion information would be transmitted to multiple receivers. The suggestion/motivation would have been to enable the receiving parties to know which algorithms to use in order to decompress the data as taught by Kari (col. 3, lines 21-26) when a one-to-multiple destinations type of telecommunication is used.

Regarding claim 47, the admitted prior art teaches that the apparatus (headend 20-3 in Fig. 1) is located within a central distribution center (not defined, reads on headend, paragraph 0013).

Regarding claims 48 and 59, the admitted prior art teaches that the receivers are local distribution centers (set to boxes 28-1, ..28-t that must distribute signals to the televisions, paragraph 0010).

16. Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Fig. 1).

Regarding claim 71, the admitted prior art teaches an apparatus (headend 20-3) comprising:

A controller (20-3-4), coupled to a bit converter (processor 20-3-6) for receiving bit rate conversion information (results of the analysis) and bandwidth information (the available bandwidth of the downstream channel) and for determining whether to convert bit rate of the sequence of media signals (selected digitized programs) in response to the bandwidth information and the bit rate conversion information (paragraph 0013).

The bit rate converter (processor 20-3-6), coupled to the controller (20-3-4), for receiving the sequence of media signals and for converting the bit rate of the sequence of media signals, in response to the determination (paragraph 0013).

Wherein the media signals are arranged in MPEG compliant transport packet (the received selected digitized programs including media signals compressed using MPEG standard, paragraphs 0003 and 0008, therefore, the media signals must be MPEP compliant transport packet.

However, the admitted prior art fails to explicitly teach that the bit rate conversion information is embedded within the headers of the transport packets.

An official notice is taken that it is well known in the art to embed compression information such as compression type used in compressing a packet into a header of the packet in order to assist a receiving system in decompressing the packet data.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of the admitted prior art by embedding compression information within the headers of the transport packets such that a receiving system can use the

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information to decompress the data portions of the packets, and such modification involves only routine skill in the art.

17. Claims 60-64, and 67-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Fig. 1) in view of Worthington et al. ("Worthington") (USPN 6,937,323 B2).

Regarding claim 60, the admitted prior art teaches an apparatus (headend 20-3) comprising:

A controller (20-3-4), coupled to a bit converter (processor 20-3-6) for receiving bit rate conversion information (results of the analysis) and bandwidth information (the available bandwidth of the downstream channel) and for determining whether to convert bit rate of the sequence of media signals (selected digitized programs) in response to the bandwidth information and the bit rate conversion information (paragraph 0013).

The bit rate converter (processor 20-3-6), coupled to the controller (20-3-4), for receiving the sequence of media signals and for converting the bit rate of the sequence of media signals, in response to the determination (paragraph 0013).

Although the admitted prior art further teaches that the bit rate information is provided from a local analyzer 20-3-4 within the headend 20-3 (paragraph 0013) and multiple controllers (20-2-4, 20-3-4, and 20-m-4), the admitted prior art fails to teach that the bit rate information is provided from a central analyzer to multiple controllers as recited in the claim.

However, in analogous art shown in Fig. 1, Worthington teaches a distributing system for distributing information from a central source to multiple receivers, wherein the system includes a computer 106 and a central data repository server 110 (collectively, equivalent to a central

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analyzer) sending test results (equivalent to the bit rate information) to multiple terminal 112s (equivalent to multiple controllers). See col. 4, lines 28-33.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of the admitted prior art by including Worthington's concept of a distributing information from a central source to multiple receivers, removing the respective local analyzers from the headends, and installing a central analyzer at the central distribution center 12 such that the bit rate information is provided from a central analyzer to multiple controllers as recited in the claim. The suggestion/motivation to do so would have been to analyze data at a central processing unit and distribute the analysis to the remote receivers through the network as taught by Worthington (lines 8-10 of the Abstract).

Regarding claim 61, the admitted prior art teaches that the media signals comprising of at least two sequences of media signals (at least two selected digitized programs, paragraph 0004, lines 1-4 and paragraph 0008, lines 4-5), whereas each sequence (each selected digitized program) of the at least two sequences of media signals is associated with a bit rate conversion information (paragraph 0008, lines 1-5 and paragraph 0013, lines 1-13).

Regarding claim 62, the admitted prior art further teaches that each of the at least two sequence of media signals is representative of at least a portion of a program (a portion of a digitized program). See paragraph 0004, lines 1-4, paragraph 8, lines 4-5, and paragraph 0013, lines 7-12.

Regarding claim 63, as shown in Fig. 1, the admitted prior art teaches that the apparatus (headend 20-3) selects at least one of the at least two sequences (selected digitized programs) to be provided to the channel (the downstream channel). See paragraphs 0011 and 0013.

Regarding claim 64, it is inherent that a multiplexer must be coupled between the communication channel (the downstream channel) and the bit rate converter (processor 20-3-6) for multiplexing the at least two sequences of media signals and transporting the multiplexed signal via the communication channel (paragraph 0013).

Regarding claim 67, the combined teaching of the admitted prior art and Worthington fails to teach the bit rate conversion information is multiplexed with the media signals.

However, an official notice is taken that it is well known in the art to combine and transmit any signal relevant information with the signals such that the information can be utilized in processing the signals at a receiving end. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the combined teaching of the admitted prior art and Worthington to combine and transmit any signal relevant information with the signals such that the bit rate conversion information would be multiplexed with the media signals. The suggestion/motivation to do so would have been to enable a receiving end (multiple controllers) to utilize the bit rate conversion information in processing the media signals and such modification involves only routine skills in the art.

Regarding claim 68, the combined teaching of the admitted prior art and Worthington does not teach that the media signals are associated with priority criteria, and that the step of converting the media signals is further based upon a priority associated with the media signals.

However, an official notice is taken that it is well known in the art that there are different levels of quality associated with media signals, and these quality levels usually relate to different priority levels which need to be maintained by a network operator for customer satisfaction. Therefore, it would have been obvious to one skilled in the art to include that the media are

associated with priority criteria, and that the step of converting the media signals is further based upon a priority associated with the media signals in order to maintain a certain signal quality to ensure customer satisfaction.

Regarding claim 69, the admitted prior art teaches that the media signals are MPEG compliant (the received selected digitized programs including media signals compressed using MPEG standard, paragraphs 0003 and 0008).

Regarding claim 70, the admitted prior art teaches that the media signals are arranged in MPEG compliant transport packet (the received selected digitized programs including media signals compressed using MPEG standard, paragraphs 0003 and 0008, therefore, the media signals must be MPEP compliant transport packet).

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nittaya Juntima whose telephone number is 571-272-3120. The examiner can normally be reached on Monday through Friday, 8:00 A.M - 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nittaya Juntima

April 14, 2006





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